ORIGINAL

RECEIVED

DEC - 7 1998

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 15 of the	)	**ET Docket No. 98-156**
Commission's Rules to allow certification of	)	**RM – 9189**
equipment in the 24.05 – 24.25 GHz Band at	)	
field strengths up to 2500 mV/m	)	

COMMENTS OF
TELIGENT, INC.

Teligent, Inc. ("Teligent"), by its attorneys, submits these comments in response to the Notice of Proposed Rulemaking ("NPRM") released by the Federal Communications Commission ("Commission") on September 1, 1998 in the above-captioned proceeding. In the NPRM, the Commission proposes to allow the operation of fixed point-to-point transmitters in the 24.05-24.25 GHz band with field strengths of up to 2500 mV/m.[1] As explained further below, Teligent, in general, does not object to the Commission's proposal to allow Part 15 point-to-point transmitters to operate at field strengths of up to 2500 mV/m. Teligent proposes, how-

---

1 See In the Matter of Amendment of Part 15 of the Commission's Rules to Allow Certification of Equipment in the 24.05-24.25 GHz at Field Strengths up to 2500 mV/m, ET Docket No. 98-156, Notice of Proposed Rulemaking, rel. September 1, 1998. This proceeding was initiated in response to a Petition for Rulemaking ("Petition") filed by Sierra Digital Communications, Inc.'s ("Sierra Digital") on October 20, 1997. Currently, Part 15 limits the field strength in the 24.05-24.25 GHz band to 250 mV/m.

ever, that the Commission adopt a 10 MHz guard band at the upper end of the unlicensed band and, at a minimum, adopt its proposed frequency stability of ±0.003% in order to reduce the risk of interference to DEMS systems.

Teligent is a telecommunications service provider of point-to-point and point-to-multipoint wireless services to small- and medium-sized businesses. Currently, Teligent holds licenses to construct and operate digital electronic message service ("DEMS") systems in the 24.25 - 24.45 GHz and 25.05 - 25.25 GHz bands (collectively, the "24 GHz band"). Accordingly, the proposed rules could adversely affect DEMS operations in the adjacent 24 GHz band. This is particularly true given that DEMS equipment is still being developed and tested,[2] and the overall effect of Part 15 devices and DEMS equipment operating in adjacent channels is incalculable.

Moreover, because the Commission has not amended its technical rules for the operation of DEMS in the 24 GHz band, it is undeterminable whether, once such rules are adopted, DEMS operations will be able to tolerate *any* interfer-

---

[2] The Commission only recently relocated DEMS to the 24 GHz band to protect national security interests. See Amendment of Commission's Rules to Relocate DEMS from the 18 GHz band to the 24 GHz band, ET Docket No. 97-99, Order, 12 FCC Rcd 3471 (rel. March 14, 1997)("Relocation Order"); Amendment of Commission's Rules to Relocate DEMs from the 18 GHz band to the 24 GHz band, ET Docket No. 97-99, Memorandum Opinion and Order, 12 Comm. Reg. (P&F) 1126 (rel. July 17, 1998) ("MO&O"). The Commission has not yet proposed rules for DEMS operations, including technical rules specific to 24 GHz band operations, which has slowed the development of 24 GHz point-to-multipoint equipment.

ence that may result from an increased field strength limit of unlicensed Part 15 devices. Accordingly, the Commission should adopt a 10 MHz frequency separation, or guard band, and adopt its proposed frequency stability in order to provide licensed DEMS systems with adequate interference protection for Part 15 devices operating at higher power levels in the adjacent spectrum.

Part 15 point-to-point transmitters could cause interference to DEMS receivers in several ways. First, if an unlicensed Part 15 point-to-point transmitter, operating at the high end of the unlicensed 24 GHz band, is located within close proximity to a DEMS receiver operating at 24.25 GHz, the DEMS receiver may receive adjacent channel interference from the Part 15 transmitter.[3] A frequency separation or guard band of 10 MHz, however, will provide adequate protection and minimize the likelihood that such adjacent channel interference will occur. Thus, the Commission should limit the proposed higher power Part 15 operations to the 24.05-24.24 GHz portion of the band.

---

[3] The Commission recognizes such interference as a "near-far" problem. This generally occurs when a transmit station that is near an unintended receive station saturates the front end of the unintended receiver, thereby preventing the "far" intended transmit station from being received. See In the Matter of Authorization of Spread Spectrum, Notice of Inquiry, 87 FCC 2d 876 (1981); see also In the Matter of Amendment of Parts 21 and 74 to enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions, MM Docket No. 97-217, Report and Order, FCC 98-231, ¶ 45, n.90 (rel. September 25, 1998).

Second, DEMS operations may be subject to harmful interference due to the frequency drift of oscillators in Part 15 point-to-point transmitters. When the ambient temperature changes, the Part 15 point-to-point transmit frequency may drift into the DEMS band and cause severe degradation to DEMS networks. In order to prevent such co-channel interference, the Commission must, at a minimum, adopt its proposed frequency stability of ±0.003% for such equipment.[4] The Commission's proposed frequency stability is less stringent than the ±0.001% applied in recent years,[5] thus should pose no undue burdens on unlicenced operations.[6] More importantly, the proposed frequency stability would adequately protect against frequency drift into the DEMS frequencies. Specifically, the proposed frequency stability permits a drift of about ±0.7 MHz at 24 GHz, which should be adequate to minimize the risk of interference to DEMS when unlicensed units are installed in environments with temperatures outside the specified temperature range of -20 to + 50 degrees C. Failure to adopt the proposed frequency stability, however, would result in a significant increased risk of co-channel interference to DEMS operations.

---

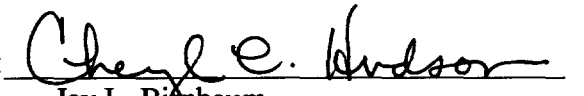
4 See NPRM at Appendix B, Proposed Rule Changes, 47 C.F.R. § 15.249 (b)(2).

5 See Relocation Order at 3479 (amending Section 101.507 to adopt a frequency stability in the 17.70-19.70 and 24.25-25.25 GHz band at ±0.001% for nodal station transmitters).

6 Sierra Digital proposed no frequency stability standard in its Petition.

Accordingly, for the foregoing reasons, the Commission should create a 10 MHz "guard band" and limit high-power unlicensed Part 15 operations to 24.05 - 24.24 GHz frequencies in order to protect licensed DEMS systems in the 24.25 - 24.45 GHz band from potentially harmful interference, and, at a minimum, adopt its proposed frequency stability of ±0.003%.

Respectfully submitted,
Teligent, Inc.

By: 

Jay L. Birnbaum
Cheryl L. Hudson
Skadden, Arps, Slate Meagher &Flom, LLP
1440 New York Avenue, N.W.
Washington, D.C. 20005
(202) 371-7288
Counsel for Teligent, Inc.

Laurence E. Harris
David S. Turetsky
Terri B. Natoli
Carolyn K. Stup
Teligent, Inc.
8065 Leesburg Pike
Vienna, VA 22182
(703) 762-5100
Counsel for Teligent, Inc.

December 7, 1998